

**Temperature Dependence of Phase Diagram of Copper (II) bis(2ethyl-hexyl)
Sulfocuccinate, Cu(AOT)₂/Isooctane/Water**

C. Garza and R. Castillo
Instituto de Fisica
Universidad Nacional Autónoma de México
P.O. Box 20-364
D.F. 01000 México City, México

The system copper (II) bis(2ethyl-hexyl) sulfocuccinate, Cu(AOT)₂/isooctane/water has been studied. The surfactant was produced by ionic exchange of the sodium AOT salt using two ion exchange resins. We obtained the phases in a planar section through the water/oil/surfactant/temperature prism, at equal water and oil contents. In this system we found "the fish", at zero salt concentration. That is, we found several regions: One with only one phase, beyond the \bar{x} at high surfactant concentration. Two, where the microemulsion is in the upper oil phase at low temperatures, and where the microemulsion is in the aqueous lower phase at high temperatures. Three, with the blue microemulsion in the middle phase, in the fish head was also found. Dynamic light scattering, viscosity and conductivity were used to study the microstructure of the phases.